



**CRITICAL HABITAT** for the threatened Alameda whipsnake and red-legged frog will be set aside under new U.S. Fish and Wildlife Service plans. The service has proposed designating more than 5 million acres in 31 counties for the frog, and has designated seven areas in five counties as critical for the snake. In both cases, only federal lands or property that receives federal funds or requires a federal permit will be affected by the designation. The service is under a court-order to designate the frog habitat by December 29.

**UP TO 90 PERCENT** of the lead in San Francisco Bay is the legacy of long obsolete leaded gasoline concludes a decade-long study by U.C. Santa Cruz scientists. The study cast new light on lead cycling in estuaries and indicated that lead from leaded gas — which has not been sold since 1992 — will continue to wash into the Bay from Central Valley rivers for decades to come. Contact: dsteding@es.ucsc.edu.

**THE SACRAMENTO SPLITTAIL** has won a reprieve. In late September, a federal judge gave US Fish & Wildlife six months to reconsider its listing of the fish as threatened, rather than simply removing it from the list following a June ruling that the February 1999 listing was unlawfully arbitrary.

**THE FBI AND EPA** have joined the Regional Board in investigating C&H Sugar for discharging wastewater containing elevated levels of chlorine into the Carquinez Strait and failing to report it accurately. The investigation was prompted when the Board discovered discrepancies between data stored at C & H and the company's monthly reports submitted to the Board. In the meantime, the 9,000-member California Sportfishing Alliance plans to sue C&H for violations dating back four years, involving chlorine, mercury, lead, chloroform, selenium and coliform bacteria. C&H denies the allegations.

**THE LATEST EFFORT** to offer technical assistance to grassroots watershed groups is well underway with an assessment of the needs of Bay Area creek and watershed groups. Funded by an EPA and State Water Resources Control Board grant to the Friends of the Estuary, the Watershed Resources Assessment Center (WARC) will assist grassroots groups in developing scientifically valid monitoring and assessment programs to help them achieve their watershed goals and to create partnerships with local and state agencies. In August WARC sent a questionnaire to grassroots groups and agencies throughout the Bay Area. Next WARC will hold a series of large regional workshops—one for rural areas, one for urban-rural, and one for urban areas—to demonstrate watershed assessment techniques. Contact: Laurel Marcus (510) 832-2760

## Gangbusters on Efficiency

Squeezing the most out of every drop of water seems like it ought to be a way of life in the arid West, but farmers are tired of environmentalists and regulators saying "just do it," with little regard for local conditions and costs. Though CALFED's first stab at the efficiency question produced what many thought a weak program, its latest proposals seem to have spurred a small revolution in the efficiency game, at least according to those privy to the debate and talking up their cure-all at public meetings this fall.

"We've been stuck, in the West, with a concept of water conservation that says 'here's the bar, we want you to jump this high'," says Van Tenney of the Glenn-Colusa Irrigation District, which waters some 142,000 acres of farms in the Sacramento Valley. While such a bar may work for cities uniformly plumbed with pipes and faucets, it doesn't work so well for farm fields with different crops, soils and systems for irrigation, drainage and water delivery. "Moving away from the regulatory approach is the greatest step forward in conservation I've seen in 30 years. It's close to miraculous," says Tenney.

Rather than giving farmers and water districts a laundry list of Best Management Practices to carry out (line your canals, install drip irrigation, etc.), the new CALFED program would work by setting ecological and water quality objectives, assessing local and regional flow patterns, evaluating how area farms might change their water use to achieve the objectives, then providing financial incentives for them to do it.

"What's important is the outcome, not the specific actions for how to get there," says CALFED's Tom Gohring.

"It's a shift from command and control to an incentives- and objectives-based program," expands Scott McCreary of CONCUR, hired to help CALFED facilitate a steering committee of 14 stakeholders, including

Tenney, that began brainstorming a new tack on efficiency in October 1998.

Van Tenney is not the only enthusiast for the new CALFED program. Environmentalists also see it as a breakthrough, particularly since they walked away from the table at a similar set of negotiations started with the passage of AB 3616 and the creation of the Ag Water Management Council years ago. "That wasn't a fair and objective process," says Friends of the River's Betsy Reifsnider, who serves on the steering committee with Tenney. "The people chosen to work on this new approach were willing to go beyond their usual positions. We sat down together and went through stacks of information, in a rigorous manner, and figured out a solution. For once, it wasn't the ag water districts saying 'just trust us.'"

Just how much water can be saved by fine-tuning agricultural water use is still in the realm of guesstimation. CALFED projects potential savings of 260,000 to 350,000 acre-feet per year within seven years. The real benefits, say planners, won't come so much from the creation of new, "wet water," but rather from rerouting and optimizing use of existing supplies.

On-farm irrigation efficiency is already averaging 73%, according to the State Department of Water Resources. Of course some farms are more efficient than others, and not all improvements will occur at the

*continued page 6*

**"Moving away from the regulatory approach is the greatest step forward in conservation in 30 years. It's close to miraculous."**

## BULLETINBOARD

**TWO CREWS SPRAYED SPARTINA** in the Oro Loma area of the Hayward Regional Shoreline early this October, kicking off a regionwide war against the spread of smooth cordgrass (*Spartina alterniflora*). This invader from the Atlantic coast currently infests mudflats and wetland zones at the Hayward park and the mouth of Alameda Creek, with footholds springing up throughout the South Bay and creeping north. This September, East Bay Regional Parks and four other agencies signed an agreement to fight off this pest plant, which hybridizes with the native cordgrass, chokes tidal channels, and colonizes open mudflats essential to migratory shorebirds, estuarine fish, and intertidal organisms. As part of the agreement, agencies are financing the spraying of a glyphosate compound called Rodeo that stops the plant's growth process. According to the park district's Pete Alexander, other methods, namely burning and physical removal, have been tried with little success. Spraying has been limited to Sept 1 through January 31, in order to avoid the nesting activities of the endangered California clapper rail. Contact: Ned MacKay (510)544-2208

**A COOL \$25 MILLION FOR THE CARGILL** salt ponds was approved by the Governor this fall, an amount that is supposed to signal California's commitment to splitting the roughly \$300 million cost of 19,000 acres with the feds. Government managers and biologists, not to mention S.F. airport planners, have been eyeballing the ponds for the largest wetland restoration project in Bay history. The idea is that the government will buy the property and the airport will pay the \$200 million to restore it as mitigation for its proposed runway expansion into Bay waters. Myriad uncertainties remain. Will the government actually cough up the big bucks for the purchase? Who should pay for cleaning out the more unsavory by-products of salt production? Will salt-pond dependent shore and waterbirds be displaced as the tidal marshes advance into their turf? And how can watchdogs ensure that the big government buy-in doesn't somehow taint the still fledgling analysis of alternative runway schemes and environmental impacts?

## RECREATION

## TRAILING THE WILDLIFE

Preliminary results of a new Bay Trail study suggest that recreational trails had "no appreciable effect" on the abundance and diversity of nearby shorebirds, and that habitat quality may be a more important determinant of bird use than whether humans jog, walk and bike by.

Whether public access and wildlife protection are compatible activities has been a hot topic among trail planners and resource managers of late, "but there has been very scant scientific data on this topic to date," according to Ceil Scandone of the Bay Trail and the Association of Bay Area Governments, which commissioned the independent study. "Most of the information in anecdotal."

Observers for the study monitored the number and species of birds on three Bay Trail mudflats between July 1999 and June 2000. Each location — Bothin Marsh in Marin, Redwood Shores in San Mateo, and Shoreline at Mountain View — had a trail site and a control site. Recreational activities at the three sites varied, ranging from cycling and jogging to in-line skating. Field observers visited sites on both weekends and weekdays to monitor both high and low levels of human use.

Based on summary data only — researchers have yet to analyze daily reports — lead scientists Jana Sokale and Lynne Trulio concluded that the study was functioning as designed, and that preliminary results suggest no pattern of relationship between human use of trails and overall bird abundance or species diversity in the foraging habitats studied (see chart).

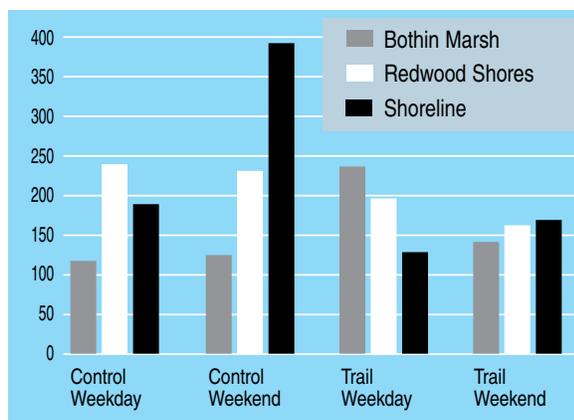
This September, researchers presented these early findings at a national trails conference in Redding, California and at meetings of the Bay Area Open Space Council and the S.F. Bay Conservation and Development Commission (BCDC).

"They've done a great job, but they need to tease out the real results," says wetland scientist Mike Josselyn. "By combining a lot of data together in the summaries, they were unable to detect any differences from a statistical standpoint. Once migratory versus resident birds, and seasonal changes, are isolated, I think the conclusions may be different."

Final study results should help those planning or designing new trails in sensitive habitat. Others will look to the study for policy guidance — BCDC plans to update wildlife and public access policies in their Bay Plan by February 2001.

To this end, BCDC conducted a survey of 362 land managers in coastal and Great Lakes states nationwide earlier this year, asking them largely qualitative questions about their experiences with various measures taken to minimize wildlife impacts (43% responded). The survey gleaned a wide range of observations about whether flora and fauna benefited from such measures as creating buffers, boardwalks and viewing platforms to limit visitor intrusions into sensitive areas, or from restrictions on disruptive model planes, boomboxes, pets and the like. Although more than 72 respondents felt that walking/jogging had an immediate effect on wildlife at their sites (behavior such as alarm calling and flushing), an almost equivalent number (63) felt there was no effect at all, and only 12 felt there were long-term effects. BCDC survey manager Caitlin Sweeney notes that respondents were not asked to correlate such effects with the number of visitors at their sites.

AVERAGE BIRD ABUNDANCE PER 4-HOUR OBSERVATION PERIOD



Such correlations are more the purview of the Bay Trail Study, which could end up either contradicting or confirming some of the anecdotal information now swirling around the subject. This fall, the study won new grants to do another year's worth of field research. Sokale says they'll be adding three new control sites to better encompass what's left of the natural diversity of the Bay, doing more in-depth analyses to isolate seasonal and species differences, and soliciting others to examine the habitat quality and food supplies in their mudflat quadrants.

"It's gratifying how interested people are in the study," says Sokale. "But too many people are already taking the information and running with it, hearing what they want to hear. These are only very preliminary results, and we have a lot of analyses still to do. The study hasn't spoken yet." Contact: Ceil Scandone (510)464-7961 or Caitlin Sweeney (415)352-3600 [ARO](#)

## PEOPLE

### MIDNIGHT HEROES

Their name may conjure up clever guides helping tourists find their way around the San Francisco bar scene during cocktail hour, but the work the San Francisco Bar Pilots do is of an even riskier nature: they work around the clock, guiding the 9,000-some ships that enter the Bay each year safely to their destinations.

Only 25% of the Bay is actually navigable, says Captain Stephen MacLachlan, one of the pilots. With 62 pilots on staff, half on-call at any given time, the Bar Pilots' mission is to keep ships away from sand bars (including the immense bar stretching from Pacifica to Marin just outside the Golden Gate), from running aground and spilling oil, or from running into bridges, docks or any of the Bay's many other man-made obstacles.

From a boat stationed 11.5 miles outside the Golden Gate Bridge, the on-call pilot leaps aboard the incoming vessel—tanker, container ship, bulker, large private yacht, or any ship sailing under a foreign flag or weighing over 300 gross tons—and guides it into and around the Estuary, sometimes as far upstream as Sacramento. A "medium-traffic" day might include escorting nine ships into port and as many as 13 out to sea, says MacLachlan. (A pilot sometimes rides one ship in and takes another back out to the station.) Pilots must be familiar with nine different "pilotage" areas in the Bay, receiving a pilotage license only after completing 30 safe roundtrips to each area. San Francisco Bar Pilots must also be skilled at navigating rivers: San Francisco Bay is the only U.S. port that requires pilots to have the skills to navigate bars, the Bay and rivers, and is considered one of the most dangerous pilotage areas in the country.

The job, says MacLachlan, is stressful but fun—most of the time. "When it's storming in the winter and you've got 60-70 knot-winds from the south with 20-foot swells and you have to board a vessel, you think about people in their homes, listening to the trees tap on the window," he laughs.

Despite the hazards, the Bar Pilots are devoted to their work. Although they are paid by the shipping companies (which are legally required to use pilots), most of the pilots, says MacLachlan, see their duty "not so much as protecting the ships but more as protecting the Bay." Contact: SF Bar Pilots (415)362-5436  
LOV

## BURNING ISSUE

### BREACH ON THE SAN JOAQUIN

Not dead, just resting, appears to be an accurate description of California's water wars during relatively cooperative recent years. The beast was jolted into angry wakefulness in August when Westlands Water District filed an application with the State Board laying claim to one-third of the water from the San Joaquin River and breaking the unwritten law that agricultural interests should stick together. The move not only leaves the 15,000 farmers on the east side of the San Joaquin Valley — who rely on water diverted from the river at Friant Dam — fearing for their livelihoods, but also threatens a long-sought plan for restoring the San Joaquin below the dam.

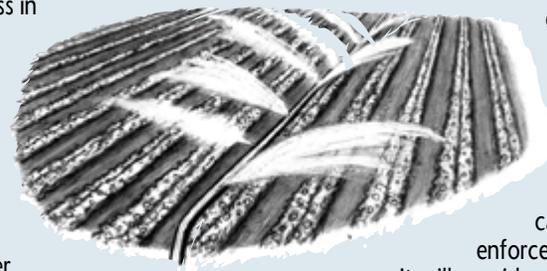
Westlands — the nation's largest irrigation district — filed the claim because it "can no longer rely on the Central Valley Project to provide an affordable, reliable water supply that is adequate to sustain agriculture in the district," thanks largely to regulatory actions taken under the Central Valley Project Improvement Act and the Endangered Species Act, says Westlands general manager Tom Birmingham. Because of new regulations imposed over the past decade, Westlands expects an average of only 50% to 55% of its contracted CVP water, he says. Westlands is basing its claim on county of origin and watershed protection statutes, which give water users in a county where a river originates and those downstream in the watershed priority before the water can be exported.

"This just illustrates how tough things are getting out there," says Dave Kranz of the California Farm Bureau, which has members on both sides of the valley and has not taken an official position on the issue.

"People are desperate and they are doing whatever they can to make sure they get the water they need." Birmingham agrees, and goes a step further. "The failure of CALFED to restore the water that has been lost to the environment contributed to the decision to file the application," he says. "If the Department of the Interior, through CALFED or any other means, can give Westlands an enforceable commitment that it will provide an affordable, reliable and adequate supply, it will not be necessary to pursue the application."

Whether or not Westlands succeeds is likely to turn on a legal question for which there is little guiding precedent. The watershed protection statutes only apply if the water is being exported out of the basin or an area immediately adjacent to it that can be conveniently served, says the State Board's Jerry Johns. "The issue revolves around whether or not the water use in the Friant service area is outside the watershed of origin or an area immediately adjacent to the watershed of origin. If Friant is immediately adjacent, they should be treated as if they were an in-basin user, and Westlands, as another in-basin user, can't have the water because it's already being used, in effect for in-basin use."

Although the term "area immediately adjacent thereto" has not been clearly defined in the law, arguing that it "extends over two or three watersheds is not a reasonable interpretation," says the Central Delta Water Agency's Dante Nomellini. Although many in the state's farming community view Westlands' move as nothing short of traitorous, Nomellini thinks the district has a point. By the same token, he adds, "we think the Bureau of Reclamation's



## DIGITALWATCH

## RESTORATION BOOKMARK

Anyone involved with creek or wetland restoration should consider adding the URL "sfbayjv.org" to their bookmarks. Sponsored by the San Francisco Bay Joint Venture, the new website promises to be not only a source of information about restoration projects, but also a way of linking nonprofits, government agencies and potential funders with each other.

The website essentially furthers the goals of the Joint Venture, which defines itself as "a partnership of public agencies, environmental organizations, business groups and environmental interests." Established in 1996, it helps to coordinate restoration efforts and assists groups looking for technical resources and funding to complete their projects. Members include the Coastal Conservancy, the S.F. Estuary Project and Estuary Institute, the Sierra Club, US Fish & Wildlife, PG&E, and Ducks Unlimited, among others.

The Joint Venture began building the website early last summer, using a \$5000 grant from U.S. Fish & Wildlife. It includes general information about the Joint Venture, links to its member groups and possible funding sources, along with news about upcoming events and ways for individuals to get involved with restoration projects. It also has a set of "clickable" maps, which will allow people to locate a project, then find out what groups are involved, their goals and other information (this part of the site is still under construction). Director John Steere says the maps will make it easier for people to find others who may be doing projects in the same watershed, or to exchange ideas with others doing similar restorations in other parts of the Bay. "There's a lot more I'd like to do with the website," says Steere, who is hoping to get funding to add pictures of the different projects, and to expand the information about each one.

For the less technologically minded, the Joint Venture has published a full color, 30" by 40" map showing restoration and open space projects throughout the Bay Area. It costs \$20, postpaid, and is available by calling the Joint Venture office. Contact: John Steere (510)286-6767. **O'B**

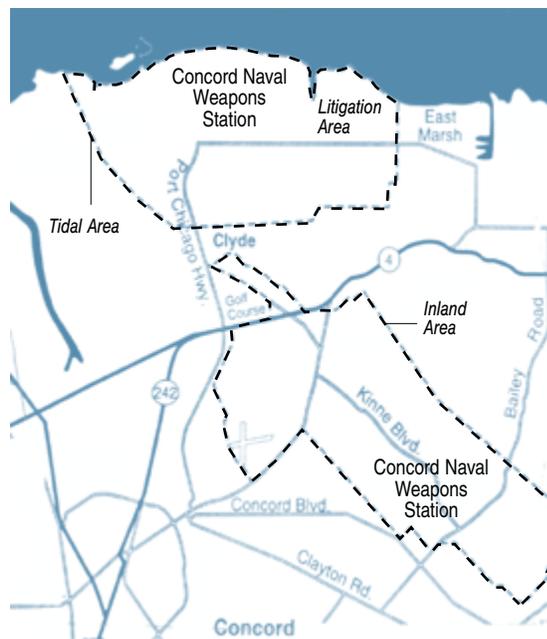
## REUSE

## PARADISE FOUND

As the Navy winds down operations at its 60-year old Concord Naval Weapons Station, the future of the site, viewed by local enviros as "Contra Costa County's hidden environmental treasure," is up for grabs and the focus of a task force convened by Congressman George Miller. The 13,000-acre base, which lies next to Concord along the Mount Diablo foothills both north and south of Highway 4, boasts grasslands and valley oak woodland (dotted with soon-to-be-empty bunkers), marshlands (surrounding a port facility), 1,600 acres of undisturbed islands in Suisun Bay, and a large administrative area. Since the Navy is not closing the base permanently but wants to keep it in reserve, it wants all re-uses to be temporary in nature. But that hasn't stopped developers from dreaming about covering the site with cookie-cutter subdivisions and commercial strips. The president of Blackhawk Corporation, for example, has said he thinks the best reuse of the base would be a combination of housing, recreation, open space, commercial use, and possibly a marina on the waterfront. He also believes the site would be very attractive to high-tech businesses.

But local enviros have a different vision for the former base. Marcus O'Connell, a neighborhood activist and founder of the Contra Costa County Creeks Council, envisions adding the 20-square-mile base to Mount Diablo State Park, so that the park would stretch from Blackhawk to the top of Mount Diablo, and down again to the marshlands of Suisun Bay. The expanded park, with its diverse habitats and miles of trails, would be accessible from anywhere in the Bay Area by BART, says O'Connell. "This could be our version of Point Reyes — without the Pacific." O'Connell has submitted a proposal for restoring over 125 acres of freshwater wetlands, both seasonal and permanent, in the inland area, including a five-mile stretch of Mount Diablo Creek, which would preserve and expand habitat for the California tiger salamander, red-legged frog, burrowing owl, tule elk and other wildlife.

And in conjunction with Karl Malamud-Roam of the Contra Costa Mosquito and Vector Control District, O'Connell has proposed restoring tidal action to about 1,500 acres of diked wetlands, and enhancing 12 acres of existing freshwater wetlands within the tidal area. Because explosives are loaded from piers in the tidal area, the area has been and will continue to be off limits to the public (the Army has taken over shipping operations there). This area contains some of the most intact tidal wetlands in the Bay, according to John Steere, of the San Francisco Bay Joint Venture, and offers a signifi-



cant opportunity for broad-based partnerships to acquire and restore habitat. "It's the largest expanse of contiguous Bay habitat in the East Bay north of the San Mateo Bridge."

Competing with O'Connell's vision for the inland area are proposals for a mega-complex of soccer and baseball fields submitted by the Northern California Soccer Foundation and Concord American Little League (neither could be reached for comment). O'Connell thinks recreational uses would be better off dispersed along the four-mile perimeter of the base, bordering Concord's residential neighborhoods. Not only would this reduce traffic impacts on wildlife, says O'Connell, but children could walk or bike to the sports fields rather than depending on their parents to drive them.

The inland area isn't the only part of the site where competing needs may cause conflict. O'Connell shudders at the interest once expressed by the Concord City Manager in creating "Port Concord" (although the City's current official position is that they have "no plans for the base since the property is not available"). An increase in industrial activity at this site, says O'Connell, could cause problems for the salt marsh harvest mouse, California clapper and black rails, Suisun song sparrow, *Mason's lilaepsis*, and soft bird's beak that have managed to hang on in the midst of the Navy's activities.

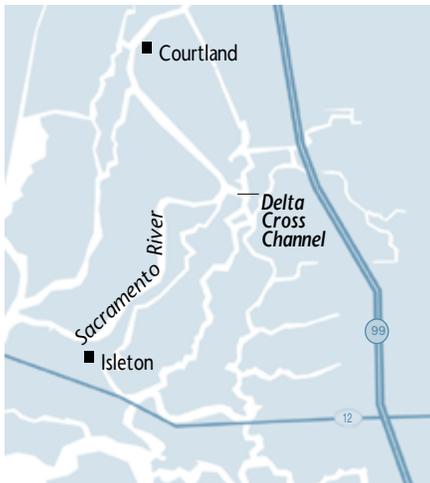
"Some of the reuse proposals treat the area as just white space on a map," says O'Connell. "I think we need to first take into account the environmental constraints that are there."

Contacts: Marcus O'Connell (925)689-7881 or marcus@value.net; City of Concord (925)671-3495. **LOV**

## SCIENCE

### THINKING ALONG NEW CHANNELS

A central premise of most measures now taken to protect migrating Delta fish is being tested this fall during a series of experiments involving operation of the Delta Cross Channel. The results may reduce some of the conflict between protecting fish and Delta water quality.



The study, which is being funded by CALFED and conducted by an Interagency Ecological Program team, will focus on whether fish move with water or according to some other pattern. For example, they may move downstream at a constant rate, or only during certain times of day. The results could have important implications for operation of the channel, which allows Sacramento River water to pass into the interior Delta and improve the quality of exported water. Unfortunately, outmigrating juvenile salmon are also sucked into the interior Delta, where their prospects for survival are decidedly dim. For this reason, the channel gates are closed during migration periods. Closure for outmigrants between November and January last year led to serious water quality problems

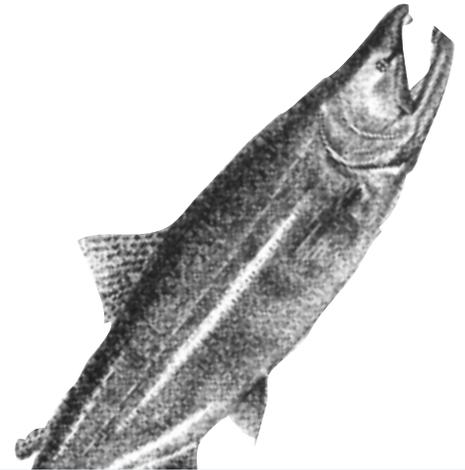
Hydraulic modeling studies have shown that water is forced into the channel primarily when the tidal stage in the Sacramento River is rising. The implication is that almost all of the water quality benefits associated with the channel could be achieved by opening the gates only when the tide is rising. However, how much that might benefit fish is still an unknown.

To help answer that question, on November 8th and 15th 160,000 juvenile smolt, marked for identification, will be

released upstream of the channel — with the gates open — and then recovered by continuous midwater trawls over the following 48 hours. In addition, radio-tagging and sonar will be used to track fish movements. "We will know a lot more at the end of those two weeks than we do now," says EPA's Bruce Herbold. The study will also monitor the effect on water quality of operating the gates on a tidal cycle.

But it's the fish studies that may have the broadest implications. "A lot of the rules for Delta exports and flow are based on the assumption that fish move with the water," says Herbold. "If that's not the case then we've got a lot of work to do."

Contact: Bruce Herbold  
(415)744-1992. CH



## TECHNOFIX

### A LIFT FOR FISH

The 51 species of fish that move downstream through the Delta may benefit from a new designed facility to help them avoid being pulverized in the powerful export pumps. The facility is designed to test technology that could be implemented at the state and federal pumping facilities and perhaps ultimately replace the existing Tracy Fish Collection Facility.

When it began operating in 1957, the Tracy facility was considered state-of-the-art. Over the years as fish were all too often sacrificed rather than salvaged, many inter-agency efforts took place to improve the facility, most with little success. Small fish like Delta smelt and splittail continued to be particularly vulnerable, slipping through the facility's louvers and ending up in the pumps rather than the Delta.

The test facility, which will likely be located across the Delta-Mendota Canal from the Tracy facility, will include a channel with screens and louvers as well as one or two bypass channels that use both "fish-friendly" lifts and gravity flow systems to move fish. Both the state and federal facilities use the gravity system now, says Mike Nepstad with BurRec, which passes water and fish through a series of screens, all generally headed in a downhill direction. The fish end up being dumped into a deep holding tank, where they are then hauled out and trucked downstream of the pumps to a safe release spot. The process is very stressful for the fish and there is a high mortality rate.

In contrast, the proposed new "fish-friendly" lift method would pump incoming water (and fish) several feet above ground level, and then carry the fish through a series of screens (all at ground level) that will remove debris and sort the fish according to size; the test facility will include smaller mesh screens that will filter much smaller fish than the existing facility. Ultimately, the fish will end up in a holding tank at ground level, possibly located in the back of a truck, all in an effort to decrease the amount of handling—and subsequent stress—to the fish.

The ultimate goal, says Charles Liston, Research Director for the test facility, is to save all healthy fish 20 mm and larger. Although no exact figures of losses are available for the current facility, says Liston, any fish that end up in the canals (rather than being salvaged and taken to a safe release spot) are "100% lost from the Delta."

BurRec's Denver Technical Service Center, which recently created "Crabzilla" (a "escalator" for mitten crabs that effectively removes them from the holding tanks) designed the test facility. BurRec hopes to begin construction of the test facility in the summer of 2001, with a completion date of 2003. The facility may remain a test facility, says Nepstad, or be converted to full production, depending on its success. Contact: Mike Nepstad (916)978-5204, or Charles Liston [crlist@aol.com](mailto:crlist@aol.com), [www.mp.usbr.gov/tftf/](http://www.mp.usbr.gov/tftf/) LOV

**BURNING ISSUE CONTINUED**

deliveries from the Delta to Westlands are illegal; they're depriving the eastside of San Joaquin county of its water."

Natural Resources Defense Council's Drew Caputo dismisses the idea, suggested by some Westlands supporters, that enviros should back Westlands' claim, since it would mean the release of about 500,000 af from Friant Dam in normal years. "The whole idea is to come up with a restoration plan that all parties can live with. For Friant that means that they remain viable as an agricultural operation — if Westlands takes away a third of the river's water, Friant loses its ability to restore the river and feel like they can remain viable." Furthermore, he says the point of the restoration plan — being developed as part of settlement negotiations in a long-running legal battle between NRDC and the Friant Water Users Authority — is to restore the entire river, not just the section between Friant Dam and Mendota Pool, where Westlands would divert the water. Friant Water Users Authority spokesman Randy McFarland agrees that if Westlands is successful, "from Friant's perspective, it would be shattering to restoration efforts. All the knowns become unknowns."

Westlands claim is likely to take years to resolve. In the meantime, both MacFarland and Caputo say they are moving forward with studies to determine what the river needs to become a living river once again.

Although Birmingham insists that Westlands' quarrel is not with the Friant users, but rather with the federal government, Friant doesn't see it that way; in late September they fired back with a letter charging that the Westlands board violated the state's public meetings law by failing to list the issue on its agendas in recent months. McFarland says the letter "gives Westlands an opportunity to reconsider their action" in light of the massive opposition it has provoked; if they do not, Friant will pursue the issue in court. Contact Randy McFarland (559) 896-4715, Tom Birmingham (559) 224-1523. **CH**

**EFFICIENCY CONTINUED**

farm level; some will involve districts working to reduce leaks, spills and evaporation from their canals and delivery systems. According to a region-by-region analysis in the CALFED paperwork, places with the most potential to recover losses by rerouting flows are the Sacramento River and the east side of the San Joaquin River. Regions most likely to recapture currently irrecoverable losses (those that do not re-enter rivers and groundwater systems) are Tulare Lake, the Colorado River and California's South Coast.

"We're trying to reduce losses that don't come back to the system or losses that come back degraded or in a place or time that isn't useful," says Gohring.

Losses occur throughout California's waterworks. What makes it difficult is that some of this "lost" water goes on to provide significant other benefits, like recharging rivers or groundwater, or supplying downstream fish, cities and other farms. But each basin has its own local flow path, water balance and resulting opportunities for greater efficiencies, all of which are now being carefully

mapped and measured using the latest technology and data (a new, but as yet undefined, approach to measuring water is slated for creation by 2003).

"We're really trying to nuance, to get situation- and place-specific," says CONCUR's Bennett Brooks. "It's not efficiency for efficiency's sake, it's efficiency as a means to an end."

CALFED's water efficiency program lists 196 such ends, "targeted benefits" planners would like to achieve for 21 different basins and river reaches in the CALFED solution area. Examples include providing fall and spring flows in the Sacramento River below Keswick to improve ecosystem conditions, and reducing nutrients in the Delta to protect beneficial uses of the water.

But hopping on the efficiency bandwagon may turn out to be less a matter of warm and fuzzy aims and more a matter of cold hard cash. The new program will offer farms and water districts considerable financial incentives to do the right thing, in the form of competitive grants and loans.

*continued back page*

**CATEGORIES OF TARGETED BENEFITS BY SUB-REGION**

	QUALITY										QUANTITY	
	FLOW/TIMING	NUTRIENTS	GROUP A PESTICIDES	PESTICIDES	SALINITY	NATIVE CONSTITUENTS	TEMPERATURES	SEDIMENTS	LONG-TERM DIVERSION FLEXIBILITY	NONPRODUCTIVE EVAPORATION	SHORT-TERM DIVERSION FLEXIBILITY	FLows TO SALT SINKS
1 Redding Basin												
2 Sacramento Valley, Chico Landing to Red Bluff	•			•			•		•	•		
3 Sacramento Valley, Colusa Basin	•		•	•	•				•	•		
4 Mid-Sacramento Valley, Chico Landing to Knights Landing	•			•	•				•	•		
5 Lower Feather River and Yuba River	•		•	•	•		•		•	•		
6 Sacramento Valley Floor, Cache Creek, Putah Creek, and Yolo Bypass	•			•					•	•		
7 Lower Sacramento River below Verona	•			•	•		•		•	•		
8 Valley Floor east of Delta	•						•		•	•		
9 Sacramento - San Joaquin Delta	•	•	•	•	•	•	•		•	•	•	•
10 Valley Floor west of San Joaquin River	•		•	•	•	•	•	•	•	•		•
11 Eastern San Joaquin Valley above Tuolumne River	•	•	•	•	•		•		•	•		
12 Eastern Valley Floor between Merced and Tuolumne Rivers	•		•	•	•		•		•	•		
13 Eastern Valley Floor between San Joaquin and Merced Rivers	•		•	•	•		•		•	•		
14 Westlands Area							•		•	•		•
15 Mid-Valley Area									•	•		•
16 Fresno Area	•		•	•	•		•		•	•		
17 Kings River Area									•	•		•
18 Kaweah and Tule River Area									•	•		•
19 Western Kern County									•	•		•
20 Eastern Kern County									•	•		
21 Kern River Area									•	•		•

# PLACES TO GO & THINGS TO DO



## WORKSHOPS & SEMINARS

OCT  
THURS  
26

### BALLOT BOX NAVIGATOR

**Topic:** One-day course provides a thorough overview of the laws that govern the initiatives to promote or reduce land use development on ballots throughout California. The powers and limitations of voter measures, the procedural steps required to qualify them for vote and recent legislative and case law decisions affecting their use will be discussed.

**Sponsor:** UC Berkeley Extension

**Location:** San Francisco

**Cost:** \$295

(510) 642-4111 or [www.unex.berkeley.edu/enroll](http://www.unex.berkeley.edu/enroll)

OCT  
FRI  
27

### TMDL PROGRAM IN CALIFORNIA RIVERS

**Topic:** One-day course covers the major technical, legal and practical issues involved in the still-evolving TMDL process and the roles of the EPA, the states and other involved stakeholders. Some familiarity with water quality programs is advised.

**Sponsor:** UC Berkeley Extension

**Location:** San Francisco

(510) 642-4111 or [www.unex.berkeley.edu/enroll](http://www.unex.berkeley.edu/enroll)

NOV  
WEDS-FRI  
8  
9  
10

### FACILITATING AND MEDIATING EFFECTIVE ENVIRONMENTAL AGREEMENTS

**Topics:** Conflict Assessment, Stakeholder Analysis, Ground Rules, and Multiparty Negotiations

**Sponsor:** Concur, Inc.

**Location:** Berkeley

**Cost:** \$795

(510) 649-8008 or [concur@concurinc.net](mailto:concur@concurinc.net)

DEC  
FRI & SAT  
1  
2

### AQUATIC POLLUTION: THE CASE IN SAN FRANCISCO BAY

**Topic:** Two-day course deals with the ongoing problem of pollution in the San Francisco Bay. The course includes examination of the physical properties and water circulation patterns of the bay, also the water chemistry of estuaries, biological processes in marine ecosystems, organic and metal pollutants, sediments and the influences of human beings.

**Sponsor:** UC Berkeley Extension

**Location:** Berkeley

**Cost:** \$395 including course materials and refreshments.

(510) 642-4111 or [www.unex.berkeley.edu/enroll](http://www.unex.berkeley.edu/enroll)



## MEETINGS & HEARINGS

OCT  
MON  
16

### BAY AREA & BEYOND: BIRDS, SCIENCE AND CONSERVATION

**Topic:** Genetic Approaches to Conserving Neotropical Migratory Songbirds

**Sponsor:** Point Reyes Bird Observatory

**Location:** San Francisco

(415) 868-1221 ext.10

NOV  
FRI  
3

### IMPLEMENTATION COMMITTEE MEETING

**Topic:** Wetlands Recovery Project

**Sponsor:** SF Estuary Project

**Location:** 1515 Clay Street, Oakland

10:00 AM — 12:00 PM

(510) 622-2325

NOV  
SATURDAYS  
4  
AND  
11

### ELEVENTH ANNUAL CREEKS, WETLANDS AND WATERSHEDS CONFERENCE

**Topics:** Ecosystem-based landscape management, aquatic insect monitoring, creek restoration and marsh canoe trips. Academic credit through California State University, Hayward. Preregistration required.

**Sponsor:** Aquatic Outreach Institute.

**Cost:** \$25 per trip

(510) 231-5778

NOV  
WEDS-FRI  
8  
9  
10

### ACWA 200 FALL CONFERENCE

**Topic:** ACWA — Proud of Its Past, Poised for the Future. Includes sessions on land use planning and water supply, water quality issues, local government and LAFCO issues, analysis of election results, urban and agricultural water management plans, ESA issues.

**Sponsor:** ACWA

**Location:** Anaheim

(916)441-4545 or [www.acwanet.com](http://www.acwanet.com)

DEC  
TUES  
12

### LAKE MERRITT SPEAKERS PROGRAM

**Topic:** Oakland's plan to improve oxygen levels at Lake Merritt and get off the EPA 303 list.

**Sponsor:** The Lake Merritt Institute

**Location:** Oakland, 7:30 PM

(510) 238-2290



## HANDS ON

MAY  
NOW  
THRU  
13

### CALIFORNIA SPECIES: BIOLOGICAL ART & ILLUSTRATION

**Topic:** Artwork celebrating the diversity of plant and animal species native to California.

**Sponsor:** The Oakland Museum of California

**Location:** Oakland

1-888-OAK-MUSE

OCT  
SATURDAYS  
21  
AND  
28

### HEALTHY GARDENING

**Topic:** Learn how to build healthy soil, select plants suited to the Bay Area and control pests and weeds safely while creating wildlife habitat and conserving water quality. Comprehensive binder available for purchase. Pre-registration required.

**Sponsor:** Bio-Integral Resource Center (BIRC)

## NOW IN PRINT & ON LINE

*Air Deposition Handbook*  
US EPA

Copies from (202) 260-2729 or <http://www.epa.gov/oceans/airdep>

*CALFED Programmatic Record of Decision*  
<http://calfed.ca.gov>

*California Water Decisions 2000*  
Environmental Water Caucus  
Copies from (415) 777-0220

*Layperson's Guide to Environmental Restoration*  
The Water Education Foundation  
Copies from (916) 444-6240.

*Layperson's Guide to California Water, 2000 Edition*  
The Water Education Foundation  
Copies from (916) 444-6240.

*Mission Possible: State Progress Controlling Runoff Under The Coastal Nonpoint Pollution Control Program*  
Coast Alliance (\$20)  
Copies from (202) 546-9554 or [www.coastalliance.org](http://www.coastalliance.org)

*Muddy Waters: The Toxic Wasteland Below America's Oceans, Coasts, Rivers and Lakes.*  
Coast Alliance, Clean Ocean Action and American Littoral Society (\$25)  
Copies from (202) 546-9554 or [www.coastalliance.org](http://www.coastalliance.org)

*Pointless Pollution: Preventing Polluted Runoff and Protecting America's Coasts*  
Coast Alliance (\$20) from (202) 546-9554 or [www.coastalliance.org](http://www.coastalliance.org)

*Saving Local Wetlands: A Toolbox for Your Community Save the Bay*  
Copies from (510) 452-9261

*State of the Coasts: A State-by-State Analysis Of The Vital Link Between Healthy Coasts And A Healthy Economy and Healthy Coasts, Healthy Coasts.*  
Coast Alliance (\$5) Copies from (202) 546-9554 or [www.coastalliance.org](http://www.coastalliance.org)

NOV  
THURS  
30

### WATER LEADERS CLASS DEADLINE

Applications are due for this popular program identifying young professionals from diverse backgrounds and educating them about water issues.

**Sponsor:** The Water Education Foundation  
(916) 444-6240

## EFFICIENCY CONTINUED

Key in recent negotiations, according to Tenney, is a plan to ask locals to pay for anything that's clearly locally cost effective, but to offer state and federal dollars for improvements necessary for the greater good of the Bay-Delta's fish, ecosystem and water supplies. "We need to couple this new program with the existing, locally oriented AB 3616 program, but if the money isn't there, or the cost sharing is too stingy, then it could be a bust," he says.

Tenney is already worried about some of the financial language in the CALFED Record of Decision filed this August, which he says his stakeholder committee never would have given the nod. The language basically states that over seven years of implementation total program-wide investments in water efficiency improvements would average 50% local, 25% state, and 25% federal. "I have dim hopes for a program that expects us to cost share 50% of something that's not economically feasible," says Tenney. "Politics must have entered in here." CALFED's Gohring points out that while the ROD calls for a 50/50 split programwide, it does provide latitude for tailored cost share arrangements for individual projects.

Other loose ends are how the CALFED program will interact with existing regulations (such as conservation plans required for all those receiving Central Valley Water Project water), and whether there's any hope for phasing out old regs if the new program succeeds in accomplishing the same objectives.

Assurances are another big black hole. Planners and stakeholders need to negotiate what will happen if projected efficiencies don't pan out (farmers don't want to be held responsible), or if some regions go gangbusters on efficiency while others do nothing. Environmentalists, meantime, want to make sure that all conservation efforts are exhausted before anyone turns to new dams and conveyance systems, a stance that seems to have finally carried the day.

"To a person, everyone in CALFED is now committed to the soft path approach first," says Gohring, a consensus that represents a big change in the positional bargaining of the water wars.

"Everyone's been sitting around waiting for the ag water to come to them," says Roberta Borgonovo of the League of Women Voters of California, another of the

14-member committee. "But I don't want to see the wholesale conversion of ag land to urban development. I believe the soft path to saving the Bay and Delta will help the ag community stay in business."

Despite the uncertainties (plans are to flesh out a grant application process by December 2000 and an assurances package by August 2001), all stakeholders on the committee spoke of an unprecedented ability to see each other as colleagues rather than adversaries. Brooks and Tenney are quick to say that the process of bringing the larger ag and environmental community into the fold is still ongoing—the latest round of outreach was a series of public briefings held in late September and early October.

"We don't yet have a valley-wide huzzah but we've made a real breakthrough and are moving forward," says Brooks.

"I think we have some buy-off from both sides now," says Borgonovo, "which will really help when we go to the legislature and ask for money." Contact: Tom Gohring (916)653-3790; Van Tenney (530)934-8881 or Roberta Borgonovo (415)931-4605 [ARO](#)



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[www.abag.ca.gov/bayarea/sfep/news/newsletter/index.html](http://www.abag.ca.gov/bayarea/sfep/news/newsletter/index.html)

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ESTUARY is a bimonthly publication dedicated to providing an independent news source on Bay-Delta water issues, estuarine restoration efforts and implementation of the S.F. Estuary Project's *Comprehensive Conservation and Management Plan* (CCMP). It seeks to represent the many voices and viewpoints that contributed to the CCMP's development. ESTUARY is funded by individual and organizational subscriptions and by grants from diverse state and federal government agencies and local interest groups. Administrative services are provided by the S.F. Estuary Project and Friends of the S.F. Estuary, a nonprofit corporation. Views expressed may not necessarily reflect those of staff, advisors or committee members.